Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Take Home Test 4: Arc Lengths**Geometry

**Due Tuesday, November 12th**

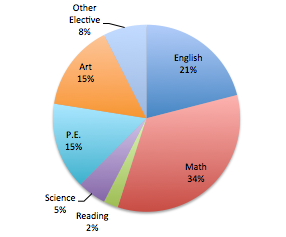
***Directions:*** *Answer the following questions to the best of your ability. Show all of your work!*

A standard penny is 0.75 inches in diameter. One particular penny is chipped such that it is missing exactly of its outside perimeter.

a. What is the measure of the minor arc that is missing from the penny?

b. What is the length of the minor arc missing from the penny?

c. Use your answers from above and the objects themselves to explain the difference between an arc’s measure and its length.

2) Ms. Neal wanted to know what kind of teachers (by content) the students at MCP liked the most so she surveyed 1,000 students and discovered the data in the following table. Ms. Neal plans on making a pie chart from the given information, but has some questions for you before she does so.

a. Will there be any sections of the pie chart that are congruent in terms of size, arc length, or measurement?

|  |  |
| --- | --- |
| Type of Teacher | Number of Students |
| English | 210 |
| Math | 340 |
| Reading | 25 |
| Science | 50 |
| Physical Education | 150 |
| Art | 150 |
| Other elective | 75 |

b. How would you classify the arc made for math teachers?

c. What is the measure of the arc made by combining P.E., Science and Reading?

3) Mr. Johnson drives a Honda Accord that makes 1,000 revolutions after traveling 4,712.39 feet. Sadly, Mr. Johnson ran over a nail while driving to the local Home Depot. After Mr. Johnson ran over the nail he drove 1.5 feet before stopping. What is the measure of the arc length the nail made from the ground to its current position?

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